

**ABSTRACT OF THE DISCLOSURE**  
**PROGRAMMABLE ACCESS DEVICE FOR**  
**A DISTRIBUTED NETWORK ACCESS SYSTEM**

5           A programmable access device for use in a network access system includes first and second network interfaces through which packets are communicated with a network, a forwarding table utilized to route packets communicated between the first and second network interfaces, and a packet header filter. The packet header filter identifies messages received at one of the first and second network interfaces  
10           on which policy-based services are to be implemented and passes identified messages via a message interface to an external processor for processing. In preferred embodiments, the packet header filter is capable of filtering packets for service processing based upon protocol information pertaining to protocol layers higher than layer 3. In preferred embodiments, the programmable access device  
15           may also include a usage monitor that reports events, such as session activity levels, to the external processor, a policer that polices packets by reference to programmed traffic parameters, and a scheduler that schedules the transmission of outgoing packets to support multiple quality of service classes.